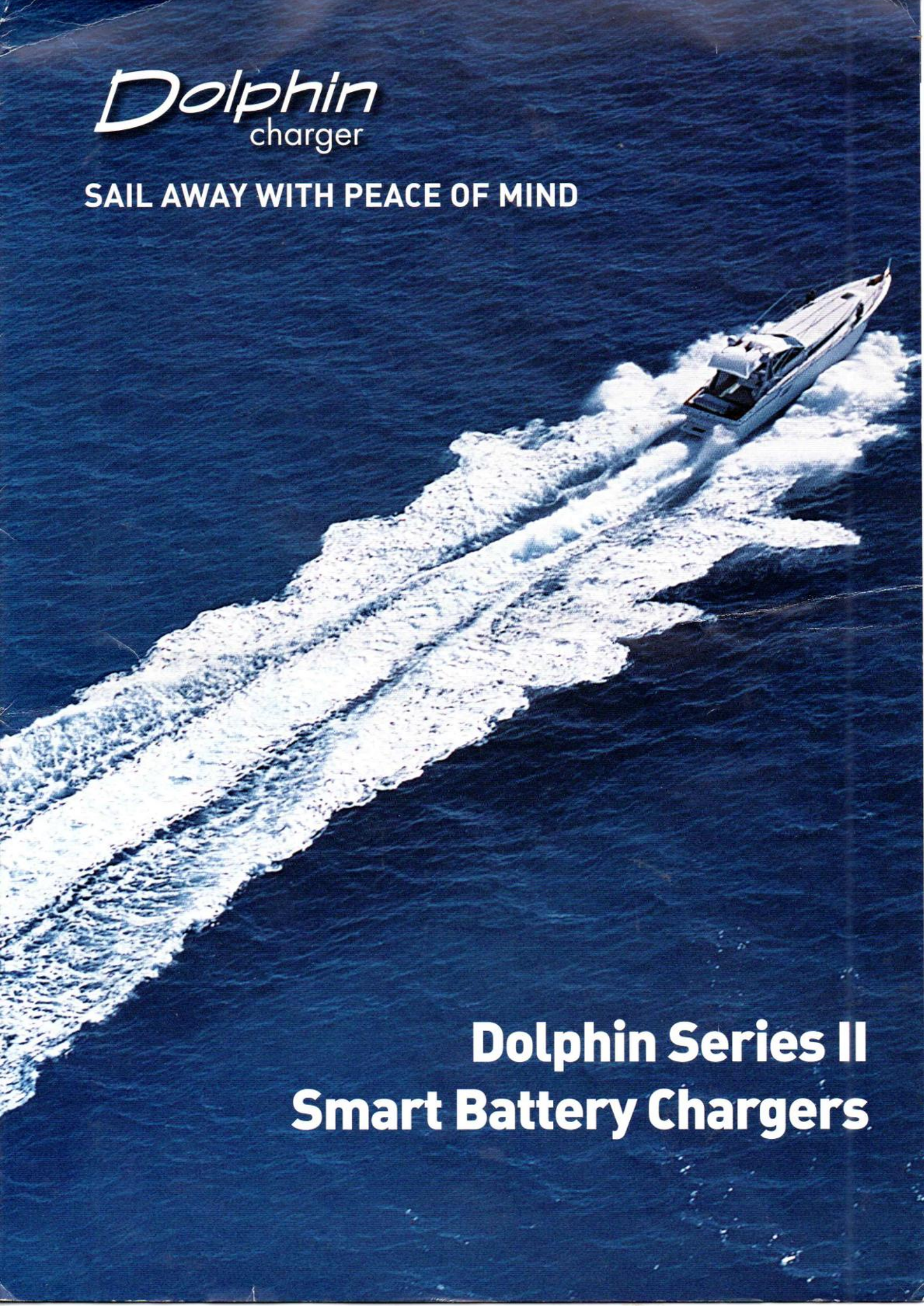
Dolphin
charger

SAIL AWAY WITH PEACE OF MIND



Dolphin Series II
Smart Battery Chargers

Small Power Chargers

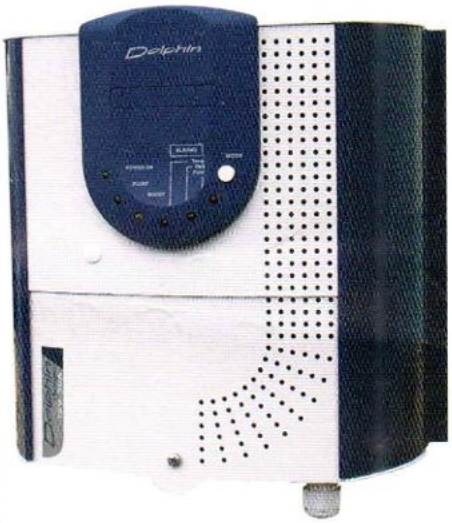
(small frame housing)

Featuring two selectable outputs for charging both standard lead acid and calcium-lead type batteries. A quick reference chart covering the models is detailed below. For comprehensive details see the full specification tabled on page 4.

Model Number	Output Voltage	Continuous Rating	Battery Capacity	Number of Outputs	Overall Dimensions
299770	12 DC	10 Amps	160 Ah	2	180 x 170 x 100mm
299702	12 DC	15 Amps	220 Ah	3	180 x 170 x 100mm
299715	12 DC	20 Amps	300 Ah	3	200 x 180 x 100mm
299772	24 DC	10 Amps	160 Ah	3	200 x 180 x 100mm

The Dolphin II Small Power Chargers have a warranty period of two years from date of sale to the consumer (special terms and conditions apply) please see detailed warranty information shipped with the product.

Large Power Chargers



(large frame housing)

Featuring ten selectable outputs including charging for six unique battery types, two special winterisation modes, a sulphation recovery program and a dedicated power supply setting. A quick reference chart covering the models is detailed below. For comprehensive details see the full specification tabled on page 5, 6 and 7.

Model Number	Output Voltage	Continuous Rating	Battery Capacity	Number of Outputs	Overall Dimensions
299770	12 DC	30 Amps	400 Ah	3 Isolated	270 x 290 x 120mm
299703	12 DC	40 Amps	500 Ah	3 Isolated	270 x 290 x 120mm
299711	12 DC	60 Amps	700 Ah	3 Isolated	330 x 350 x 120mm
299708	12 DC	80 Amps	1000 Ah	3 Isolated	330 x 350 x 120mm
299707	12 DC	100 Amps	1200 Ah	3 Isolated	330 x 360 x 120mm
299710	24 DC	20 Amps	300 Ah	3 Isolated	270 x 290 x 120mm
299712	24 DC	30 Amps	400 Ah	3 Isolated	330 x 350 x 120mm
299714	24 DC	50 Amps	600 Ah	3 Isolated	330 x 350 x 120mm
299716	24 DC	80 Amps	800 Ah	3 Isolated	330 x 360 x 170mm
299717	24 DC	100 Amps	1000 Ah	3 Isolated	330 x 360 x 170mm
299718	24 DC	120 Amps	1200 Ah	3 Isolated	710 x 370 x 170mm
299719	24 DC	160 Amps	1600 Ah	3 Isolated	710 x 370 x 170mm

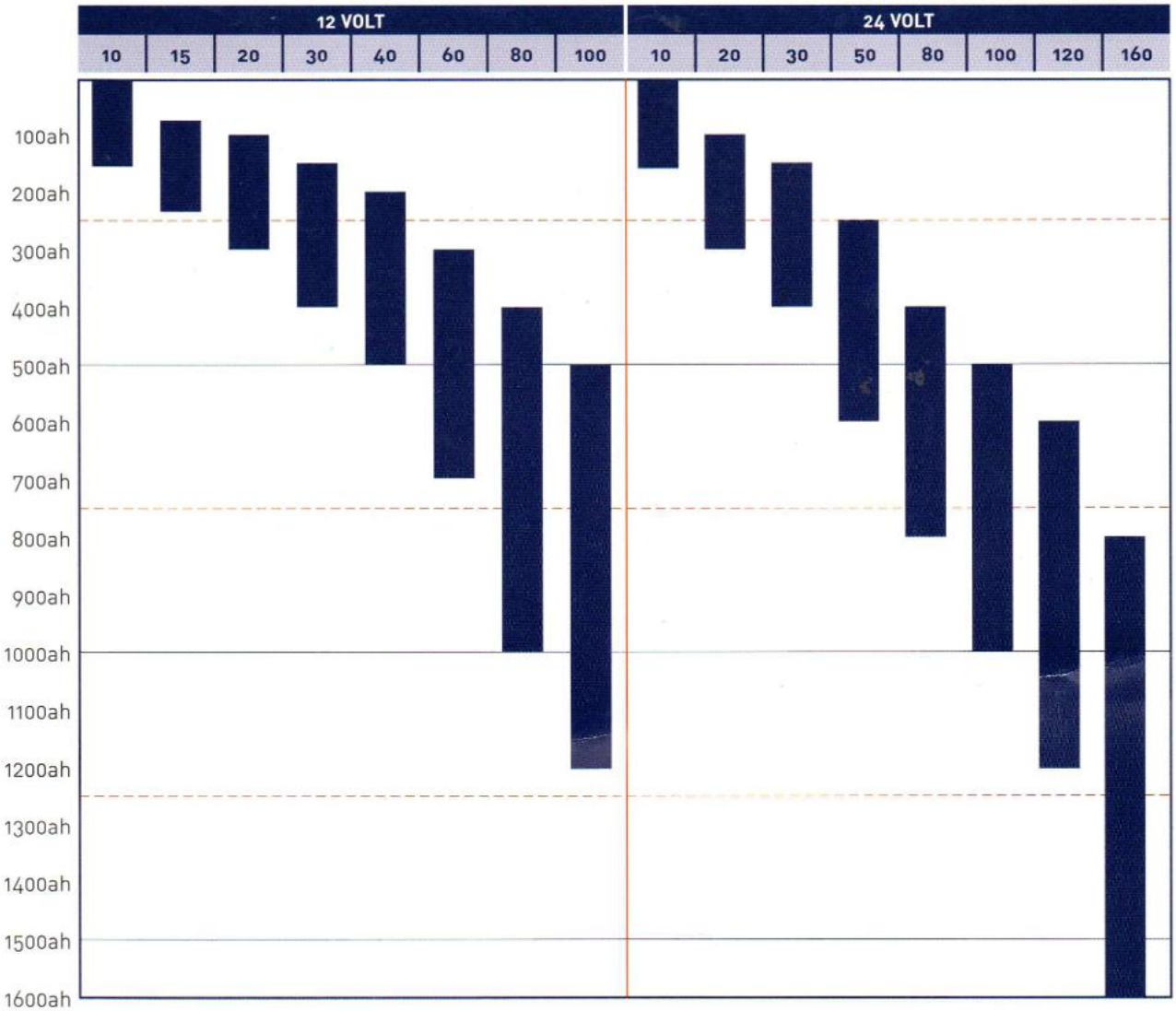
The Dolphin II Large Power Chargers have a warranty period of three years from date of sale to the consumer (special terms and conditions apply) please see detailed warranty information shipped with the product.

UL CE N1816

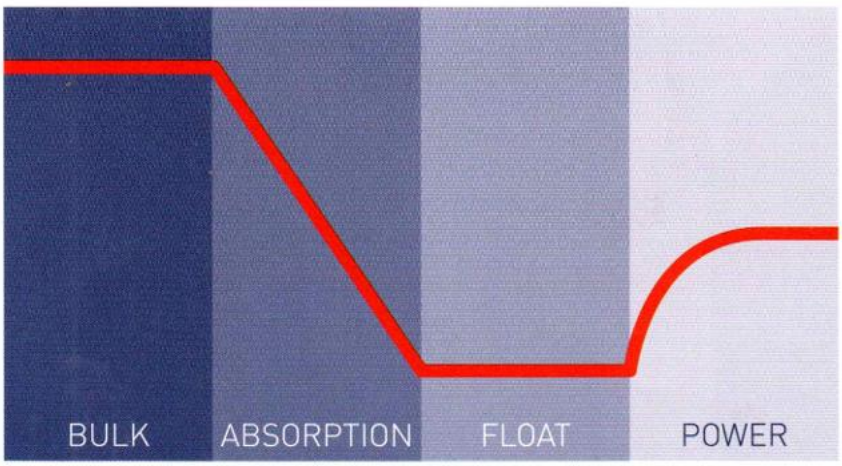
This product conforms with EMC standard AS/NZS 2064.1/2 (EN55011) Group 1.m

Choosing a charger

We recommend a charging rate to a maximum of 20% of the amp hour capacity of the battery. i.e. The charger for a 300Ah battery is maximum 60amps.



Four stage charging system



1	**Bulk Stage:** A high current is sent to the battery until it reaches approx 80% of full charge
2	**Absorption Stage:** Voltage level is maintained & the current reduced until battery is 100% charged
3.	**Float Stage:** Voltage & current reduced to maintain battery. Float gives what the battery requires
4.	**Power Supply:** Charger "keeps up" with loads applied to the battery while it's attached to AC power.

SMART BATTERY CHARGERS (12V/24V) – SPECIFICATIONS

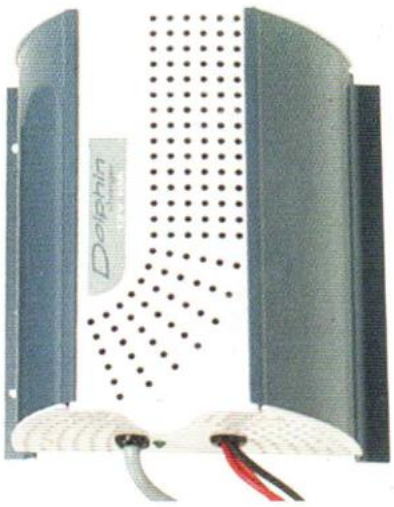
Features

- 2 selectable battery types
- Fully automatic multi stage battery charger
- Can charge up to three battery banks simultaneously
- Universal input voltage 115/230 Vac (see table for details)
- Universal input frequency of 50/60 Hz
- Protection features
  - Short-circuit protection
  - Over temperature shutdown
  - Overload
  - Input protection (fuses)
- Tolerant to high input voltage variations
- Advanced power switching technology
- Clean EMI/RFI output - no interference with other onboard electronics
- Built to ABYC and UL standards
- CE marked
- Marine-grade construction with conform tropicalized circuit boards.
- Advanced engineering and modern design
- Up to date SMD technology
- Aluminium casing with powder-coated treatment for a better corrosion resistance
- ISO 9001 assembling subcontractor
- 2 year warranty

Model	12V10A	12V15A	12V20A	24V10A
Codes	299700	299702	299715	299772
Battery Capacity (Max)	160Ah	220Ah	300Ah	160Ah
Input				
AC input voltage range	115V or 230V (± 15%)			
AC input frequency	50/60 Hz (± 10%)			
115V/230V adjustment	manual*	manual*	auto*	auto*
AC consumption full load	250 VA	370 VA	350 VA	350 VA
Cos phi	0.7	0.7	1.0	1.0
Nominal battery voltage	12 VDC	12 VDC	12 VDC	24 VDC
Charge current ± 5%	10 Amps	15 Amps	20 Amps	10 Amps
Battery type setting	Wet/calcium			
Output				
DC Outputs	2	3	3	3
Output voltage (boost/float)				
Wet	14.4/13.8 V	14.4/13.8 V	14.4/13.8 V	28.8/27.2V
Calcium	15.0/13.8 V	15.0/13.8 V	15.0/13.8 V	30.0/27.2V
Protection				
Short-circuit	Yes	Yes	Yes	Yes
Overload	Yes	Yes	Yes	Yes
Reverse polarity	Yes	Yes	Yes	Yes
Over-temp.	No	Yes	Yes	Yes
Display	On/Off led			
Operating temperature	0°C to +50°C / 32°F to 122°F			
Storage temperature	-20°C to +70°C / -4°F to 158°F			
Humidity	10% to 90%			
Cooling	Natural cooling	Speed controlled fan cooling	Speed controlled fan cooling	Speed controlled fan cooling
EMC standard	EN 50081-1 and EN 50082-1			
Safety standard	EN 60335-1			
Enclosure	Powder coated aluminium			
Weight (kg)	1.5	1.5	1.5	1.5
Dimensions (mm)	180x170x100	180x170x100	200x180x100	200x180x100

*** Manual = Manually selectable input voltage 115/230V 50/60Hz**

*** Auto = Automatically selected input voltage 115/230V 50/60Hz**



Features

- 10 User selectable settings including
  - 6 Battery type programs
  - 2 Winterization programs
  - Special sulphation recovery program
  - Direct DC power supply position.
- Fully automatic multi stage battery charger
- Can charge up to three battery banks simultaneously
- Automatic universal input voltage 115/230 Vac
- Insensitive to input frequency 50/60 Hz
- Protection features
  - Short-circuit protection
  - Over temperature shutdown
  - Overload
  - Input protection (fuses)
- Tolerant to high input voltage variations
- Advanced power switching technology
- Clean EMI/RFI output - no interference with other onboard electronics
- Built to ABYC and UL standards
- CE marked
- Marine-grade construction with conformally tropicalized circuit boards.
- Advanced engineering and modern design
- Up to date SMD technology
- Aluminium casing with powder-coated treatment for a better corrosion resistance
- ISO 9001 assembling subcontractor
- 3 year warranty

Charging Programs

INTERNAL SWITCH

Switch position: 00
Wet or flooded electrolyte batteries.

Switch position: 01
Sealed lead batteries

Switch position: 02
Calcium-lead batteries

Switch position: 03
"DELPHI" batteries

Switch position: 04
"OPTIMA" batteries

Switch position: 05
Free lead batteries winterizing

Switch position: 06
Sealed lead batteries winterizing

Switch position: 07
Gel batteries

Switch position: 08
Power supply

Switch position: 09
Sulphation recovery program

Display unit

Part Number 299037
Description Remote control panel for Dolphin battery chargers 5m cable as standard
Reference REMOTE BC2

12 VOLT SMART BATTERY CHARGERS

Model	30	40	60	80	100
Codes	299770	299703	299711	299708	299707
Battery Capacity	400Ah	500Ah	700Ah	1000Ah	1200Ah
Input					
Input voltage	115 VAC or 230 VAC				
Input voltage range	98 VAC - 130 VAC or 195 VAC - 265 VAC				
Changeover 115/230 VAC	Automatic				
Frequency	45 Hz to 65 Hz				
Harmonics	According to IEC 1000-3-2 or EN 61000-3-2				
Maximum current	4.8 A 115 VAC	6.4 A 115 VAC	10 A 115 VAC	14 A 115 VAC	18 A 115 VAC
	2.4 A 230 VAC	3.2 A 230 VAC	5 A 230 VAC	7 A 230 VAC	9 A 230 VAC
Power factor	↑ 0.9				
Efficiency	80% typ.				
Power rating	490 W	650 W	980 W	1300 W	1900 W
Active Power	550 VA	735 VA	1100 VA	1450 VA	2100 VA
Fuse	T8A	T10A	T15A	T15A	2 x T15A
Output					
DC output	**3 isolated**				
Charging characteristic	10 charging programs				
Temp. compensation	+/- 15 mV / °C optional external sensor (optional sensor)				
Voltage share	+/- 2%				
Ripple	↓ 1%				
Max current	30 A (+/- 5%)	40 A (+/- 5%)	60 A (+/- 10%)	80 A (+/- 10%)	100A (+/- 10%)
Fuses	2 x F20A	2 x F30A	3 x F30A	4 x F30A	4 x F30A
Protection					
Output circuit	Overload, short-circuit, reversed polarity, over voltage				
Over temperature	Built-in sensor				
General failure	Fuse				
Display					
LED display	5 LEDs				
Remote control panel	Optional				
Push-button	Manual Equalisation				
General					
Control	Microprocessor based RISC technology				
Topology	Forward 50 KHz + built-in PFC				
EMC	Emission: EN 50081-1, immunity: EN 50082-1				
Safety	EN 60335-1				
Operating temperature	0°C to +50°C / 32°F to 122°F				
Storage temperature	-20°C to +70°C / -4°F to 158°F				
Enclosure	IP22				
Casing	White aluminium with powder coating treatment				
Ventilation	Forced fan cooling				
Fan speed	50% or 100% depending on internal temperature				
Mounting	Wall mounting - 4 screws M4				
Humidity	10% to 90% RH non-condensing				
Connections					
AC	2 x 4.0 mm² terminal blocks				
Batteries	M6 Bolts	M6 Bolts	M8 Bolts	M8 Bolts	M8 Bolts
Temperature sensor	2 x 1.0 mm² terminal blocks				
Weight (kg)	4	4	5	5	8
Dimensions (mm)	270x290x120	270x290x120	330x350x120	330x350x120	330x350x120

24 VOLT SMART BATTERY CHARGERS

Model	20	30	50	80	100	120	160
Codes	299710	299712	299714	299716	299717	299718	299719
Battery Capacity	300Ah	400Ah	600Ah	800Ah	1000Ah	1200Ah	1600Ah
Input							
Input voltage	115 VAC or 230 VAC				230 VAC		
Input voltage range	98 VAC - 130 VAC or 195 VAC - 265 VAC				195VAC-265VAC		
Changeover 115/230	Automatic				n/a		
Frequency	45 Hz to 65 Hz						
Harmonics	According to IEC 1000-3-2 or EN 61000-3-2						
Maximum current	4.8 Amps max 115 VAC	10.0 Amps max 115 VAC	18 Amps max 115 VAC	26A Amps max 115 VAC	n/a		
	2.4 Amps max 230 VAC	5.0 Amps max 230 VAC	9.0 Amps max 230 VAC	13.0 Amps max 230 VAC	16.0 Amps max 230 VAC	19.0 Amps max 230VAC	26.0 Amps max 230VAC
Power factor	↑ 0.9	↑ 0.9	↑ 0.9	↑ 0.9	↑ 0.9	↑ 0.9	↑ 0.9
Efficiency	80% typ.	80% typ.	80% typ.	80% typ.	80% typ.	80% typ.	80% typ.
Power rating	650 W	980 W	1630 W	2700W	3400W	4050W	5400W
Active Power	735 VA	1100 VA	1850 VA	3000VA	3800VA	4500VA	6000VA
Fuse	T8A	T15A	T20A	2x T20A	2x T20A	3xT20A	4xT20A
Output							
DC output	**3 isolated**						
Charging characteristic	10 charging programs						
Temp. compensation	+/- 30 mV / °C optional external sensor				+/- 30 mV / °C external sensor		
Voltage share	+/- 2%						
Ripple	↓ 1%						
Max current	20 A (+/- 5%)	30 A (+/- 5%)	50 A (+/- 10%)	80A (+5% -10%)	100A (+5% -10%)	120A (+5% -10%)	160A (+5% -10%)
Fuses	F30A	2 x F25A	3 x F25A	4xF30A	4xF30A	8x30A	8x30A
Protection							
Output circuit	Overload, short-circuit, reversed polarity, over voltage						
Over temperature	Built-in sensor						
General failure	Fuse						
Display							
LED display	6 LEDs						
Remote control panel	Optional						
Push-button	Manual Equalisation						
General							
Control	Microprocessor based RISC technology						
Topology	Forward 50 KHz + built-in PFC						
EMC	Emission: EN 50081-1, immunity: EN 50082-1						
Safety	EN 60335-1						
Operating temperature	0°C to +50°C / 32°F to 122°F						
Storage temperature	-20°C to +70°C / -4°F to 158°F						
Enclosure	IP22						
Casing	White aluminium with powder coating treatment						
Ventilation	Forced fan cooling						
Fan speed	50% or 100% depending on internal temperature						
Mounting	Wall mounting - 4 screws M4						
Humidity	10% to 90% RH non-condensing						
Connections							
AC	2 x 4.0 mm² terminal blocks & earth						
Batteries	M6 Bolts	M8 Bolts	M8 Bolts	M8 Bolts	M8 Bolts	M8 Bolts	M8 Bolts
Temperature sensor	2 x 1.0 mm² terminal blocks				3 x 1.0 mm² terminal blocks		
Weight (kg)	4	5	5	8	8	14.6	14.6
Dimensions (mm)	270x290x120	330x350x120	330x350x120	330x360x170	330x360x170	710x370x170	710x370x170

Dolphin charger

Facts

The Dolphin range of Battery Chargers has always been recognized for its outstanding quality, one that the manufacturer is proud to support with a 3 year warranty.

Due to production on a wide scale, REYA is able to offer high quality, truly international battery chargers, at a reasonable price. Smart, indeed!

Dolphin Smart Battery Chargers are insensitive to international differences in input voltage and frequency.

They automatically sense input power (90-264 VAC / 50-60 Hz), meaning that boat builders and boat owners worldwide no longer need worry about the compatibility of their batteries and chargers.

The features of the new Dolphin SM battery chargers are synonymous with reliability and high efficiency and have a worldwide supported warranty. This new generation of microprocessor controlled chargers represents a radical technological advance.

In recognition of the perfect combination of aesthetic design and functionality, Dolphin Battery Chargers were nominated for and received a Special Mention in the DAME Awards at METS 2003 (Amsterdam).

In accordance with European Law, Dolphin Smart Battery Chargers have power factor correctors, so the charging process is quicker and more efficient. Not only is this one smart battery charger suitable for all types of batteries from 'AC Delco' to 'Wet', with a flick of a switch, it will keep your battery charged throughout periods of inactivity (like the winter) AND will restore flat batteries to life with its sulphation recovery program. Smart indeed!

Available worldwide, Dolphin II Battery Chargers were first launched in September 2002 and are made in France by an ISO 9001 factory.

Special Mention

Certificate

2003 DAME DESIGN AWARD METS

The jury has awarded this Special Mention to

Reya

in the category

Machinery, propulsion, mechanical and electrical systems and fittings

for the product

Dolphin Battery Charger

Chairman of the jury

T. Castro

Amsterdam, 18 November 2003

AMSTERDAM RAI

DAME is an initiative of the Marine Equipment Trade Show-METS

Reya

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ELECTRIC BOAT PARTS

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